Attachment A

Beaumont Energy Storage Project

Project Description

City of Beaumont, Riverside County, CA

October 19, 2021

TERRA-GEN

I. Project Summary & Site Description

The Beaumont Energy Storage Project ("Project") is a nominal 100-megawatt (MW) / 400 megawatt-hour (MWh) lithium-ion stationary battery energy storage project located in the City of Beaumont, California (City) being developed by Beaumont ESS, LLC, an affiliate of Terra-Gen, Inc (Terra-Gen). The Project's batteries will be installed in racks that are housed in outdoor Battery Energy Storage System (BESS) enclosures that will be accessed from the outside via metal cabinet doors for maintenance needs.

The Project will be charged from the electric grid via the Project's interconnection to SCE's existing115-kilovolt (kV) Maraschino substation at the Maraschino-Banning transmission line (the point of interconnection [POI]) at the Maraschino substation in Beaumont, located immediately adjacent to the Project site (Figures 1 and 2). Energy stored in the Project will then be discharged into the grid when the energy is needed, providing important electrical reliability services to the local area.

The Project will be operated remotely with no permanent on-site operations and maintenance personnel, and no occupied buildings, or habitable structures.. One on-site parking space will be provided. In addition, parking will be permitted on one side of the Project's 30-foot-wide drive aisle. It is expected that between two to four staff members will visit the site bi-weekly and as needed for maintenance and monitoring. The site will be fully enclosed and will not be open to the public.

Project Details Summary Table

Project name	Beaumont Energy Storage Project
Location	City of Beaumont, Riverside County, CA
Interconnection	SCE Maraschino Substation at the 115kV Maraschino Banning line
Capacity	100 MW
Duration	4 hours
Proposed Commercial Operation Date	August 1, 2022
APNs	417-110-012 417-130-012 417-130-005

Site Description

The Project site is located at 248 Veile Avenue, Beaumont, California 92223. The site encompasses approximately 7 acres of vacant, previously disturbed property designated as Industrial (I) in the City's General Plan and zoned M (Manufacturing). The Project is surrounded on the north, south and west by commercial and industrial uses, including the SCE Maraschino substation and a salvage yard, and is consistent with the uses, aesthetic, and scale surrounding the Project site. There are low density residential uses along the eastern boundary.

Figure 1: Project Location

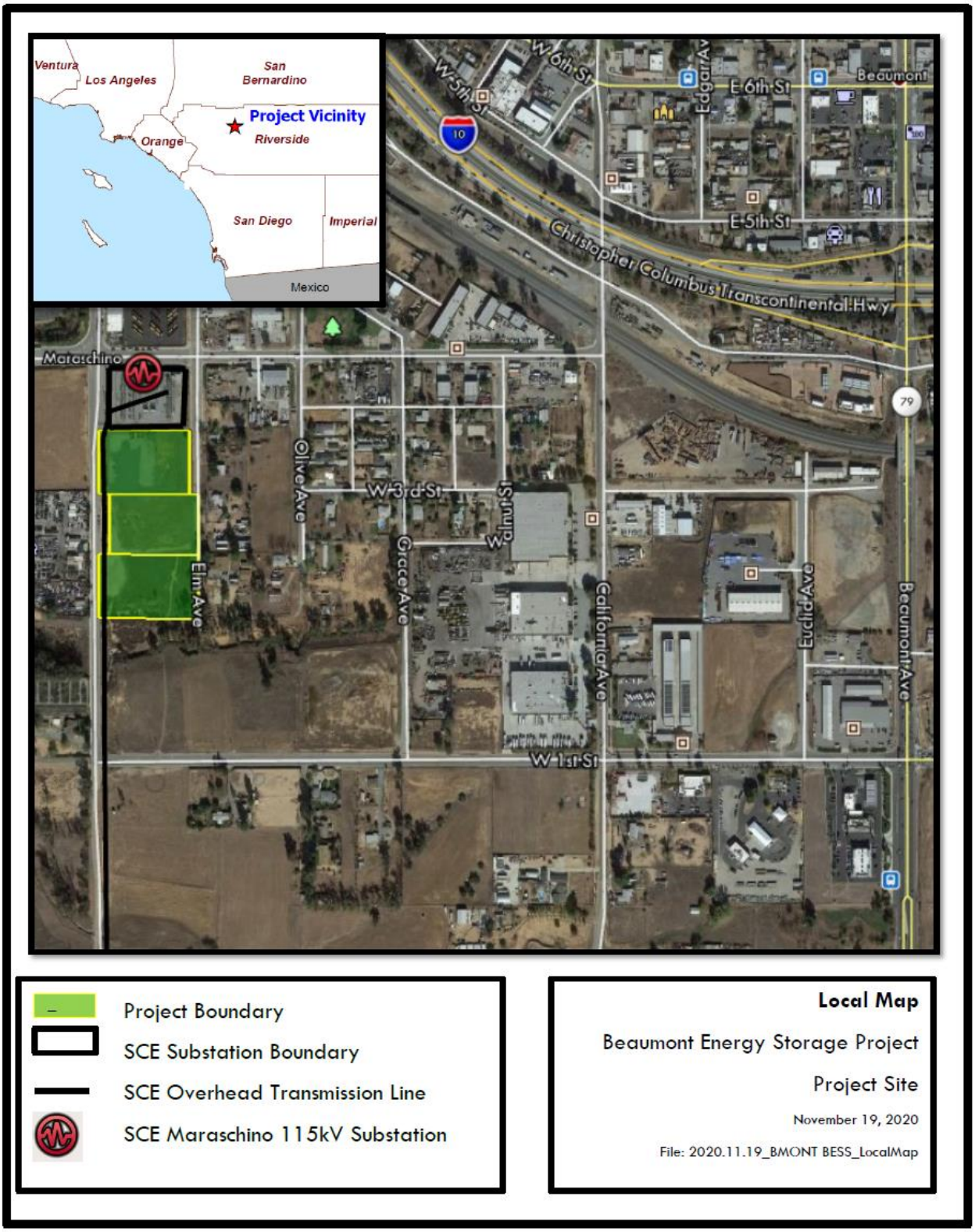

Figure 2: Project Parcels

II. Facilities Description

The Project will be capable of delivering 100 MW of storage services for approximately 4 hours. The major components of the Project are described below and illustrated in the preliminary site plan. The ultimate battery and technology manufacturer has not been selected at this time. As such, the details associated with Project such as exact dimensions of project components are approximate and are intended to provide a permitted "envelope" for the foreseeable options available at the time of Project construction. The following information provides conservative assumptions for the purposes of permitting and analyzing impacts from the Project.

Batteries housed within BESS Enclosures: The Project will be comprised of lithium-ion battery modules that will be installed in racks and housed within outdoor Battery Energy Storage System (BESS) enclosures, which are typically made of metal. A BESS enclosure will house hundreds of battery modules where each enclosure is typically capable of storing between 2 to 5 MWh of energy.

Each individual module is monitored and controlled to ensure safe and efficient operations, and every BESS enclosure is equipped with state-of-the-art integrated operational management systems, fire, and safety systems, such as HVAC systems, ventilation, gas, heat and smoke detection and alarms, and fire suppression systems. The systems will be designed, constructed, and operated pursuant to the 2019 California Fire Code.

The modules within each enclosure are accessed for maintenance from the outside via cabinet doors. A typical BESS enclosure is approximately 50 feet long by 10 feet wide by 15 feet high, however, the number, size, layout, and capabilities of each enclosure will vary depending on the battery, enclosure and BESS system manufacturer(s) selected for the Project. The Project footprint and overall capability will remain significantly the same.

Inverter/Transformers: Low voltage cables will connect the BESS to low profile, pad-mounted inverter-transformers located adjacent to the BESS enclosures. These inverter-transformers will convert the electricity from AC/DC (and vice-versa) and step the electricity delivered up on its way to the Project's PDC and main on-site Step-Up Transformer (step-down to BESS unit when charging the batteries).

Project Main Step Up Transformer: The Project Main Step Up Transformer will step the electricity from the inverter-transformer up to the kV level of the transmission system, delivering it into the grid via a generation tie-line.

Power Distribution Center (PDC): The PDC is a Project enclosure that will house and protect key Project electrical, communications and command equipment located near the Step-Up Transformer.

On-Site Switchyard: The Project's onsite switchyard will be a secure, separately fenced (chain link security fencing) area where high voltage electrical equipment, auxiliary transformers, circuit breakers, relays, meters and communications equipment are located, including the PDC, and Main Step Up Transformer (also referred to as the Battery Step Up Transformer (BSU) or Generator Step Up Transformer (GSU)) which steps up the voltage from the inverter-transformer to the voltage level of the transmission system, where it is then delivered it into the grid via the Project generation tie-line.

Generation Tie-Line: An approximately 0.05-mile generation tie-line and fiber optic cables will be constructed from the On-Site Switchyard to a position designated by SCE on the 115kV SCE Maraschino-Banning transmission line immediately adjacent to the SCE Maraschino Substation.

Other Site Design Features: The Project will include other design features to ensure safety and efficient as well as compliance with all building, fire, health, and safety regulations, including setbacks, fire-operations access roads, fences/walls, separation between equipment and other features.

Table 1: Approximate Project Equipment Details[1][2]

Equipment	Description	Number of Units	Height
Battery Energy Storage System Enclosures with Side Mounted A/C	Integrated battery energy storage system enclosures, including battery modules, energy, fire and safety management systems, ancillary equipment with HVAC.	82	Up to 15 feet
Power Conversion System (PCS)	Inverters and LV-MV Transformer skid	41	Up to 10 feet
Power Distribution System (PDC)	Substation controls building	1 or 2	Up to 15 feet
Battery Step Up Transformer (BSU)	Medium Voltage-High Voltage main power transformer	1	Up to 26 feet; static masts (lightning rods) up to 50 feet
Auxiliary Transformers	Medium-Voltage-Low Voltage Auxiliary Transformers for equipment back-feed power	2	Up to 8 feet
Generation Tie-Line	Up to 275 feet of 115-kV overhead generation tie-line with up to three on-site 90-foot poles interconnecting the On-Site Switchyard to the adjacent SCE substation at the 115kV Line.	Up to 0.05 mile (length), Approximately 3 poles	Poles up to 90 feet
On Site Switchyard	A secure, separately fenced (chain link security fencing) area where high voltage electrical equipment, auxiliary transformers, circuit breakers, relays, meters, and communications equipment are located, including the PDC, and Main Step-Up Transformer are located.	1	Various. See height references for equipment listed in this table.
Other lighting, electrical, safety, communications, and security equipment	Yard maintenance and safety lighting, electrical equipment and meters within the onsite switchyard, security fencing of the onsite switchyard, security lighting and cameras and other associated equipment.	Various	2 to 4 static masts (lightning rods) up to 50 feet; switchgear cabinets and power distribution panels up to 10 feet; junction boxes and telephony equipment up to 8 feet. The height of other equipment pursuant to approved Building Permit and consistent with building and zoning requirements.
Perimeter wall	A 8-foot perimeter wall (up to 9-foot wall on East Side) and two project access gates.	1,475 feet (length)	Up to 9 feet

[1] Implementation of the Project will occur in phases over time and building or other construction permits may be submitted for approved project components in phases.

[2] Beaumont ESS, LLC has not yet selected the Project equipment suppliers and therefore the number of equipment units, dimensions and layout will not be established until building permits are finalized. Project equipment shall be located within the improved Project footprint in the approved site plan and shall comply with all provisions in the City of Beaumont Municipal Code, including the Project details in the conditions of approval.

Access to the Project site will be provided from Veile Avenue. Access for operational, fire department, and emergency vehicles to the facility will comply with City regulations.

III. Construction Description

Project construction includes site preparation and grading, installation of drainage and detention basins, installation of concrete foundations/supports and/or driven pile foundations, setting battery enclosures, underground trenching for electrical cable and telecommunications, wiring and electrical system installation, and assembly of the accessory components including inverter transformers and generation step-up transformers installation of high voltage equipment, on-site switchyard and generation tie-line interconnecting to the SCE substation at the 115kV line. Municipal water supply may be extended to the Project for fire protection and maintenance. Construction of the Project is anticipated to occur over approximately 6 months, anticipated to begin in the fourth quarter 2021.

The Project would require approximately up to 3,800 cubic yards (cy) of cut and up to 2,400 cy of fill. Excess cut that cannot be placed on the site will be trucked from the site to a location determined by the construction contractor that is expected to be located within approximately 20 miles of the Project site. Any contaminated cut will be disposed of in a permitted landfill.

Raw materials required for construction would include gravel for roads; concrete, sand, and cement for foundations; and water for concrete, dust control, and erosion controls. The heavy equipment listed in Table 2 would be used during construction activities and primarily runs on diesel fuel.

Table 2: Construction Workforce and Equipment Required for a Typical Battery Storage Facility

Construction Activity	Workforce	Typical Construction Equipment
Office Staff / Management	4	Pickup and small vehicles
Grading, foundations, and/or driven piles and underground electrical work	10	Dozer, grader, excavator or drill rig, crane, concrete pump trucks, concrete trucks, pickup trucks with trailers, all terrain forklifts, water trucks, dump trucks, compactors, generators, welders, pile drivers
Wall/fence Construction	8	Forklift, backhoe, pickup trucks
Roads/Pad construction	10	Dozer, grader, front end loaders, compactor, roller, pickup trucks, water trucks, dump trucks, compactors, scrapers
Battery Placement	8	Crane, forklift, pickup trucks
Laborers	20	Pickup trucks
Owner Representatives	4	Pickup trucks
Battery Supplier	25	Pickup trucks
Total Number of Workers:	89[3]	

The sequence of construction activities for the BESS would generally occur as follows:

1. Equipment staging and mobilization
2. Site preparation and grading
3. Preparation of equipment foundations
4. Site compaction and gravel, as necessary

[3] It should be noted that the total number of workers provided is through project construction. It is expected that on average there will be 30-35 workers on site with a peak daily work force of approximately 45-50.

5. Excavating footings and pads
6. Pour-in-place concrete footings, pad foundations, and/or piers
7. Install below-ground conduit banks
8. Install PCS, power distribution systems, and pad-mounted transformers
9. Install below-ground and above-ground conduit
10. Install safety features, permanent fencing and security lighting
11. Commissioning

The approximately 9 acre-feet of water required during the duration of construction is expected to be provided by the Beaumont Cherry Valley Water District through a temporary use agreement.

IV. Operations and Maintenance

Energy stored in the Project will be discharged into the grid when the energy is needed, providing important electrical reliability services to the region and local area. The Project will operate 24 hours per day/seven days per week. It will be un-manned during operations, with no occupied buildings, or habitable structures.. It is estimated that maintenance will include 2-4 staff performing maintenance visits bi-weekly.

In addition to regularly scheduled maintenance and as part of Project operations, augmentation of batteries and battery enclosures will be required. Depending on technology selection, augmentation could include replacement of batteries within enclosures and/or the phased installation of BESS enclosures over the life of the Project In order to fully analyze potential impacts from the Project, all battery enclosures that would be constructed and operated through the life of the Project (82 enclosures) have been included in Project's planning and impact assessments.

V. Decommissioning

At the end of the Project's useful life, it will either be replaced with a new energy storage project or decommissioned. Decommissioning will involve the removal of the Project equipment from the Project site and the restoration of the Project site to pre-Project conditions.